

CORNELL Chronicle

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CU AT THE STATE FAIR

The university's participation again is evident through programs such as Cooperative Extension and 4-H.

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FIGHT AGAINST POVERTY

A Cornell nutrition economist is heading up a major research project to aid sub-Saharan Africa.

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Freshmen are oriented toward public service

By Nancy Kok

Last week, 30 first-year Cornell students participated in a special pre-orientation community service program in Ithaca. Pre-Orientation Service Trips 1996 (POST '96), a first-year pilot project, gave the incoming students a four-day, intensive introduction to community service work and the Ithaca area.

Arranged by Cornell Tradition and Cornell's Public Service Center, the program had three major goals, organizers said.

"We wanted to ease entering students' transition to college, get them involved in community service from the very beginning and give them an orientation to the Ithaca area," said Kris Minor, assistant director of Cornell Tradition, an undergraduate fellowship program, and POST '96 co-coordinator.

Indeed, the Aug. 19 to 22 POST '96 program included both hard work and time for participants to relax and learn about the Ithaca community. The students' daily schedule of service projects consisted of light renovation and landscaping work for Ithaca Neighborhood Housing Services (INHS), which offers housing repair, loan services and other assistance to low- and moderate-income residents, and HOMES Inc., which provides residential accommodations for people with mental disabilities.

"We graveled roads and basements and painted a lot of homes. It was hard work, but I enjoyed it," said Oscar Espinoza from Linwood, Calif., who is planning to major in nutritional sciences.

Social activities, such as a trip to Taughannock Falls State Park, a scavenger hunt on the Ithaca Commons and panel discussions with local community leaders were reserved for the latter part of each day. The project culminated in a celebration picnic at Stewart Park on Thursday, attended by Ithaca Mayor Alan Cohen and Susan Murphy, Cornell's vice president for student and academic services.

The reasons students gave for participating in POST '96 were numerous and ranged from learning about the Ithaca community to getting a head start at college. But all spoke of one common motivation: an interest in community service and helping people.

"I've been doing community service for several years, and I wanted to continue doing it in college," said Michelle Tonelli, a student from Chicago who is entering the College of

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Frank DiMeo/University Photography

Nicole Florance, right, from Clifton Park, N.Y., gets help from her mother and father, Alice and Charles Florance, moving into her North Campus residence hall along with hundreds of other new students Aug. 23.

Students get soaring start from President Rawlings

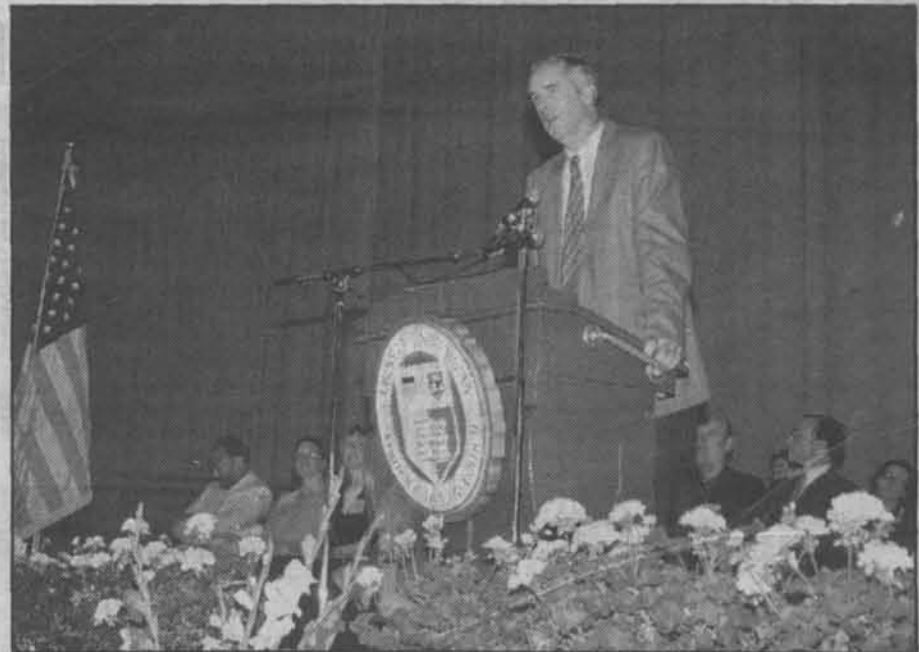
By Jill Goetz

Letting go and not getting lost. These were two of the themes of last weekend's President's Convocation for New Students and Families.

On Saturday morning, 6,500 people poured into Barton Hall from the surrounding sun-splashed sidewalks for a formal introduction to Hunter Rawlings, appropriately introduced by Orientation Steering Committee Co-chair Valerie Novellano '97 as "Cornell's 10th and tallest president."

A relative newcomer to campus himself — he began his term a little more than a year ago — Rawlings assured the new students that they could find a niche, even at such a large university. For parents, he borrowed from the late columnist Erma Bombeck to acknowledge the pain that must inevitably accompany their pride upon parting with college-bound sons and daughters.

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Robert Barker/University Photography

President Hunter Rawlings addresses a new student convocation crowd in Barton Hall Aug. 24.

Applied and Engineering Physics celebration will feature NSF director

By Larry Bernard

Neal Lane, director of the National Science Foundation and a physicist by training, will be among the key speakers at the 50th anniversary celebration of Cornell's School of Applied and Engineering Physics (A&EP) on Sept. 20 and 21.

Lane, former provost at Rice University, will join Cornell President Hunter Rawlings; Paul Horn, senior vice president, research, IBM; and Gerold Yonas, vice president, information and Pulsed power research and technology, Sandia National Laboratories, in addressing a symposium in honor of the school on



Lane

Friday morning, Sept. 20. Talks at the symposium, "Challenges and Opportunities for the 21st Century," are free and open to the public. They will take place in Schwartz Auditorium, Rockefeller Hall, beginning on Friday.

Leaders in various aspects of applied and engineering physics from around the country will share with participants cutting-edge developments and describe the state of research in their fields in a session called "New Frontiers in Applied Physics" beginning at 1:30 p.m. Friday, also in Schwartz Auditorium.

Cornell President Emeritus Dale Corson, who was an early member of the A&EP faculty and then dean of the College of Engineering during some of the important years of the development of the program, will give an address at the Friday evening banquet at the Triphammer Lodge and

Conference Center, starting at 6:30 p.m. Also scheduled to speak is an alumnus of the school, Naren Shankar '84, Ph.D. '90, producer and writer of *The Outer Limits*, whose credits include *Star Trek: The Next Generation*. A registration fee is required for the banquet.

Applied and engineering physics is an academic discipline in which students learn real-world engineering applications of physics and mathematics. Research covers a vast array of technology and science, including, for example, high-temperature superconductor devices for cellular transmitters and satellite communications, biomedical imaging and biophysics, optical devices and nanotechnology, solid state physics, plasma physics for energy production, scientific instrumentation and lasers.

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Thirty new students took part in the pre-orientation service project, POST '96, in the Ithaca community Aug. 19 to 22. At left, incoming freshmen and Cornell Tradition fellows Sarah Fogelman, standing, and Suzanne Guziec help paint a HOMES Inc. residence on West Green Street. Below right, students in the POST '96 program meet at the Southside Community Center



with community leaders including center Director Jacqueline Melton-Scott, speaking, and city Alderwoman Susan Blumenthal, to Melton-Scott's left. Above right, Ithaca Mayor Alan Cohen, standing, speaks to POST '96 participants, their families and Cornell staff members at a picnic for the program at Stewart Park.

Public service *continued from page 1*

Human Ecology. Long Island's Colin MacDonald, entering the College of Agriculture and Life Sciences, put it simply: "We're just interested in philanthropy. We know Cornell doesn't really define all of Ithaca. Ithaca defines Cornell."

Not only did participating POST '96 students work in the Ithaca community, but their housing, provided by INHS in two of its rehabilitated houses and one of its rental apartments, was located downtown. Project organizers believed this was important in facilitating the students' sense of the city. Steven Kundrot, a sophomore in engineering and one of six student volunteer team leaders for POST '96, said, "They lived right in the community, and they really got to know the Commons and the downtown area."

The origins of the program came from discussions last

year among various campus groups and offices. Several students who participated in Cornell's Wilderness Reflections, a pre-orientation program for students to meet and experience the area's natural environment, were interested in designing a pre-orientation program that emphasized community service. At the same time, the Public Service Center and Cornell Tradition began meeting to discuss ways to get Cornell students even more involved in the Ithaca area. When the groups realized their similar interests, they began meeting and organized POST '96.

Said Vice President Murphy, "We wanted students to find a way to link with the Ithaca community and, ultimately, apply what they have learned at Cornell by making a difference in the community in which they live."

After some preliminary planning, the organizers called on leaders in the Ithaca community for assistance.

"We received tremendous support from Ithaca business merchants," said Ellen Baer, volunteer coordinator of the Public Service Center and co-coordinator of POST '96.

Students learned about and applied for POST '96 through an orientation brochure mailed in the spring. Participants were chosen on a first-come, first-served basis.

"The students' eagerness and motivation for work was exceptional," said John Rogers, rehabilitation coordinator at INHS. "We were quite pleased with their work."

And Mayor Cohen, a Cornell alumnus from the Class of 1981, added, "I wish we had this program when I was in school."

CORNELL Chronicle

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BRIEFS

■ **First Aid and CPR courses:** Employees can register for Red Cross sessions in standard first aid, adult CPR or community CPR by calling the Red Cross at 273-1900 and asking for a Cornell registration card. Four standard first aid course sessions are offered the mornings of Sept. 23 and 25, Oct. 9 and 11, Nov. 11 and 13, and Dec. 11 and 13. Participants will be eligible for certification in adult CPR and standard first aid. A four-hour adult CPR certification course will be offered the mornings of Sept. 11, Oct. 7 and Nov. 8. This course includes instruction on how to identify and care for breathing and cardiac emergencies for adults and heart disease prevention in adults. The six-and-one-half-hour community CPR certification is scheduled for Sept. 16 and 18, Oct. 2 and 4, Nov. 4 and 6, and Dec. 4 and 6. Participants will learn how to identify and care for breathing and cardiac emergencies in adults, infants and children. Departments will be billed for the course registration fee. Classes usually are held at Robert Purcell Community Center but can be held at other locations when requested by departments training six or

more members. For more information call Health Education, Gannett Health Center, at 255-4782.

■ Upcoming Campus Store events:

- Sept. 20, 3-5 p.m., 2nd Annual Homecoming Group Book Signing with: Professor Robert Frank for *The Winner-Take-All Society: Why the Few at the Top Get So Much More Than the Rest of Us*; local author and M.F.A. program alumnus Edward Hardy for *Geysers Life: A Novel*; Cornell lecturer Marcelle Lapow Toor for *Desktop Designers Illustration Handbook*, and local authors Kip Wilcox and Lisa Cowden doing a signing and tasting for their cookbook *Sweetness and Light: A Book of Desserts*.
- Sept. 15-Oct. 15: Celebrate national Hispanic Heritage Month with book discounts in the Latino/Latina Studies section.
- Sept. 28-Oct. 5: Banned Books Week '96, with a banned book display and book discounts.

■ **English classes:** Registration for free English classes sponsored by the Cornell Campus Club will take place Thursday,

Sept. 5, from 7:30 to 9 p.m. in Anabel Taylor Hall's One World Room. There is a \$10 registration fee. Classes begin Sept. 9. For further information, call Ann Marie Dullea at 277-2488 or Patricia Clark at 257-0407.

■ Immunization and TB test clinics:

Immunization and tuberculosis (TB) test clinics for new students are scheduled for Mondays, Tuesdays and Fridays in September at Gannett Health Center. All new students are required by New York state law to be immunized against measles, mumps and rubella, and Cornell also requires immunization against tetanus within the past 10 years. International students also must have a TB test within one year prior to admission to Cornell or a chest X-ray within one year of entry if they have a history of positive TB tests. This year, immunizations and TB tests will be given only during scheduled clinics: Mondays, Sept. 9 and 16, from 1:30 to 3:30 p.m.; Tuesdays, Sept. 3, 10 and 17 from 1:30 to 3:30 p.m.; and Fridays, Sept. 6, 13 and 20, from 9 to 11:30 a.m. No appointment is needed. For information call 255-4364.

Cornell's contribution is exhibited throughout the New York State Fair

By Blaine P. Friedlander Jr.

Cornell's educational influence at the 375-acre classroom, known as the New York State Fair, is pervasive. Whether your farm animal is appearing at the fair for the first time or making living history at the fair's agricultural museum, the inspiration for New York's best agricultural ideas started at this university.

Take Walt and Clara Rose Thomas, for example. Dairy farmers by trade, Walt '51 and Clara Rose '50, have enlivened the fair's agricultural museum by turning a hall of exhibits into living, animate creations. Walt makes brooms out of home-grown "broom corn" (sorghum), and it takes him about an hour to intricately weave the sorghum onto each cured sapling. The all-natural brooms use the same "broom corn" that you'd find on the finest brooms in hardware stores.

Clara Rose counts threads and painstakingly double-weaves a variety of creations on her loom. At Cornell, she majored in 4-H extension, but now she runs a business called Cold Springs Crafts in Baldwinsville, N.Y., and she smiles as she explains to the fair on-lookers that her "craft takes patience."

Without farm animals, the state fair would not be fair to the state. Meet Tessa Cole, who has groomed a Romanoff-cross ewe named Pale Face. Pale Face is grayish-black with a cream-colored face. Through the Cayuga County Cornell Cooperative Extension 4-H program, this is Tessa's first state fair animal competition. She begins kindergarten this fall. She is 4.

Tessa's older cousins are veteran fair contestants. They also are part of the Cayuga 4-H program. Stacy Cole, 12, and Elizabeth-Anne Cole, 15, explained as they sheared, clipped and manicured a horned dorset that they spend between three and five hours grooming just one ewe for competition. Stacy took the ultra-champion award last year with a well-coifed horned dorset named Sweetie.

The fair and Cornell Cooperative Extension's 4-H program, in particular, provide an important vehicle for bringing young people into the field of agriculture.

"We're trying to get the kids interested at a young age," said Scarlett Butler, a Cayuga County 4-H leader. "At a young age, they're not scared of the animals. Plus, it gives them enthusiasm and reduces the stress that they can do this stuff."

This year is the 4-H program in Orange County's first time at the state fair ewe competition. The sheep club is new, and Melissa Call has risen from novice shepherd to junior leader to secretary in just 18 months, she said. She grooms a purebred



Robert Barker/University Photography

Cornell Cooperative Extension Director William B. Lacy, right, speaks with Patricia Rourke from CCE of St. Lawrence County, left, and St. Lawrence 4-H club participant Kelly Capuro at the state fair on opening day.

The fair and Cornell Cooperative Extension's 4-H program, in particular, provide an important vehicle for bringing young people into the field of agriculture.

Cheviot named Rosie.

Forget the midway, overlook the cotton candy and nix the snow cones. John Fiori, a Seneca County extension agent, held compelling court at the fair's Youth Building. He was showing kids (and adults) how to make stationery out of recyclable office paper. Fair-going kids tore up office paper, put it into a blender, added water and dumped the concoction into a watered-down, paper-making mold.

In the Youth Building, across from Fiori,
Continued on page 4



Robert Barker/University Photography

Daryl B. Lund, dean of the College of Agriculture and Life Sciences, joins Diana Powless, 10, left, and Lynn Leffingwell, 16, holding baby chicks at CCE's 4-H poultry science exhibit in the fair's Youth Building Aug. 22.

CU co-sponsors symposium on breast cancer risks Sept. 9 in NYC

By Linda Grace Kobas

Actions that may reduce the risk of breast cancer, including steps families can take to reduce risk, will be described at an educational symposium sponsored by Smith Barney Inc. and Cornell on Monday, Sept. 9, at 5:30 p.m. in the New York State Theater at Lincoln Center.

Speaking at the program, which also will describe state and federal initiatives to reduce the risk of breast cancer, will be Sen. Alphonse D'Amato (R-N.Y.), U.S. Rep. Nita M. Lowey (D-18th), Smith Barney CEO and Chairman James Dimon, Cornell President Hunter Rawlings and Executive Vice President Jessica Bibliowicz, head of Smith Barney Mutual Funds. Dimon will present a \$10,000 gift from the Travellers Foundation to Cornell to support its program in breast cancer education and research.

June Fessenden MacDonald, chair of the Cornell Program on Breast Cancer and Environmental Risk Factors in New York State (BCERF), will advise women about the most recent research findings on breast cancer risk and how information can be used to make personal choices to reduce risk for themselves and their daughters. She is a

The Program on Breast Cancer and Environmental Risk Factors in New York State at Cornell is a new initiative to collect and analyze data on risk factors such as pesticides, environmental chemicals and diet, to educate the public on reducing the risk of breast cancer and to promote needed research.

member of the Institute of Comparative and Environmental Toxicology and associate professor of biochemistry and biology and society at Cornell.

Among the points MacDonald will make in her presentation that will launch a campaign for breast cancer risk reduction are:

- The U.S. has a high incidence of breast cancer, which kills 44,000 women a year.
- There is growing interest in events in childhood and adolescence that may increase women's risk.

- Intergenerational risk management will be stressed. Mothers, daughters and grandmothers should learn about risks and together plan strategies to reduce risk at all stages of life.

- A diet high in fruits, vegetables and whole grains that provides plenty of antioxi-

dant vitamins and dietary fiber may have a beneficial effect in reducing risk.

- Being active throughout life may reduce breast cancer risk.

- Although scientists have collected much data about the incidence and established risk factors of breast cancer, there is no explanation for more than half the cases of breast cancer. Much more research still needs to be done, and the public must be kept informed of how the risks can be reduced.

BCERF was established at Cornell in November 1995 at the urging of D'Amato, with additional support from Lowey, and has received funding in the 1996-97 state and federal budgets.

Utilizing its scope as New York's land-grant university, Cornell has drawn together a multidisciplinary team of scientists and

educators from the Cornell Medical College in New York City and the colleges of Agriculture and Life Sciences, Human Ecology and Veterinary Medicine and Division of Biological Sciences. Scientists in the fields of toxicology, environmental studies, nutrition, food safety, risk communication, public policy and clinical medicine are collecting and analyzing data so that they can provide science-based information to policymakers and the general public about breast cancer risk reduction.

Cornell's statewide network of Cooperative Extension associations in each county, working with other organizations, will be involved in educational programs for the public.

Among the activities BCERF will be conducting to inform women about breast cancer and risk reduction are the production and distribution of printed fact sheets, regional meetings and teleconferences. In the planning stages is a toll-free telephone "helpline."

Information can be obtained directly from the BCERF office at 254-2893, e-mail <breastcancer@cornell.edu>, from most Cornell Cooperative Extension offices throughout the state and on the World Wide Web at <<http://www.cfe.cornell.edu/bcerf>>.

State Fair *continued from page 3*

[The Cornell-run LEAD-NY program] takes young people in the agriculture industry and grooms them to assume leadership roles.'

— George Mueller '54
Clifton Springs dairy farmer

kids of all sizes, shapes and backgrounds stood five-deep for a chance to hold chicks at the 4-H poultry science exhibit. There isn't a kid on earth, nor an agriculture dean, who can resist holding a newborn chicken. And Daryl B. Lund, dean of Cornell's College of Agriculture and Life Sciences, proved it by willingly joining the kids in the hen house.

Out on the midway, fair-goers learned that growing chickens is an industry. Forty-seven New York State Fairs ago, Robert "Bob" Baker, Cornell emeritus professor of poultry science, wanted to come up with a way to sell more chicken. So he developed his now famous barbecue sauce and opened his own chicken barbecue stand at the fair.

"It's a vinegar, oil and eggs-based recipe that was designed to increase chicken and egg sales," said Reenie Sandstead, Baker's daughter and the manager of the stand. Sandstead and her brothers and sisters are partners in the chicken venture, but she handles the daily operation.

For almost two decades, Baker's Chicken Coop has brought in Arnie Heikkila of Duluth, Minn., to cook the chicken. Last year's fair sales came to 17,000 chicken halves.

Agriculture is New York's largest industry. George Mueller '54, a Clifton Springs milk producer, took on docent duty at the fair's agricultural museum, and he shared his respect for what Cornell contributes to his industry. His sons John Mueller '86 and Steve Mueller '91 are partners with their father in running the dairy business.

"Both John and Steve have benefited tenfold by [the Cornell-run] LEAD-NY program," Mueller said, referring to the Empire State Food and Agriculture Leadership Institute. "It's just a great program. That two-year program takes young people in the agriculture industry and grooms them to assume leadership roles."

Bernard Potter '43, Cornell emeritus trustee, as well as a former director of the state fair, cheerfully greeted fair-goers as they wandered through the combines and tractors on display at the museum, explaining how farm machines have changed through the years.

Spending his childhood summers on a farm, Don Nielson '42 of Latham realized at a young age the importance of the industry, and he's devoted his career to helping farmers by working for the marketing division of the state Department of Agriculture and Markets. He explained that agricultural fairs in New York during the mid-19th century were early sources for disseminating information for farmers and consumers, such as Cornell Cooperative Extension and the state fair is today.

"Early fairs gave us the social exchange of ideas; it brought in friendly competition as well as produce," Nielson said.



Before the governor's luncheon at the state fair Aug. 22, Gov. George E. Pataki, second from left, posed with, from left, Henrik N. Dullea, Cornell vice president for university relations, Daryl B. Lund, dean of Cornell's College of Agriculture and Life Sciences, and Donald R. Davidsen, state commissioner of agriculture and markets and a Cornell alumnus.



From left, Daryl Lund, William Lacy and Dawn Lund take a walk on the midway at the state fair during their visit last week.

On opening day, while fair-goers absorbed the best of what New York agriculture has to offer, Cornell officials and Gov. George E. Pataki attended the traditional governor's luncheon, highlighted by Pataki's signing of a law that lowers taxes for the

state's farmers. Lund and his wife, Dawn, were accompanied by Henrik N. Dullea, Cornell vice president for university relations, and William B. Lacy, director of Cornell Cooperative Extension.

Following the luncheon and ceremony,

the Cornell officials savored the aromatic atmosphere, visited the educational exhibits and could not resist the New York-made ice cream at the fair's dairy bar. It is, indeed, a great state fair — and it runs through Sept. 2.

Cornell Plantations offers its fall lecture series — and it's for credit, too

Topics ranging from heirloom seeds to genetically engineered plants and from urban gardening to photographing wildflowers highlight the schedule for the Cornell Plantations' Fall 1996 Lecture Series.

The evening lectures are free to the public and also can be taken as a one-credit seminar course through the Department of Floriculture and Ornamental Horticulture (FOH).

Two of Plantations' annual lectures are part of the series: Judith D. Zuk, president of the Brooklyn Botani-

cal Garden, will speak on "Greening the Concrete Jungle" for the eighth annual Audrey Harkness O'Connor Lecture on Friday, Sept. 20, at 7:30 p.m. in David L. Call Alumni Auditorium, Kennedy Hall. For the 14th annual William J. Hamilton Jr. Lecture, Marco Polo Stufano, director of horticulture at Wave Hill in the Bronx, will speak on "Gardens That Inspire," Friday, Oct. 18, at 7:30 p.m. in Alumni Auditorium.

All other lectures are in the Whetzel Room, 404 Plant Science Building. The series starts Friday, Sept. 13, at

7:30 p.m. with "How to Be an Accomplice to Murder and Mayhem in the Garden: Ways to Enhance the Benefits of Natural Enemies" by Michael Rapp, professor of entomology at the University of Maryland.

Other topics include companion gardening, unusual shade and ornamental trees, gardening and education, and British gardens.

Information on the lecture series is available from Cornell Plantations at 255-3020. Information on the FOH seminar is available from that department at 255-1789.

Researcher welcomes chaos – and its real-world applications

By Larry Bernard

Chaos. To engineers, it has meant that their systems were at risk, and they did their best to engineer chaos out of them.

"It used to be a nuisance. Engineers would avoid it at all costs," said Steven H. Strogatz, Cornell associate professor of theoretical and applied mechanics.

Not anymore. Strogatz is among a growing number of researchers who are finding real-world engineering uses of chaos – the seemingly random and unpredictable behavior of systems that are otherwise governed by precise mathematical laws.

"The new view is: Don't avoid chaos. Exploit it," Strogatz said.

And that's just what he's trying to do. The Cornell mathematician is studying what he calls "the frontier" of chaos – new applications and uses of what used to be thought of as a pain in the experiment.

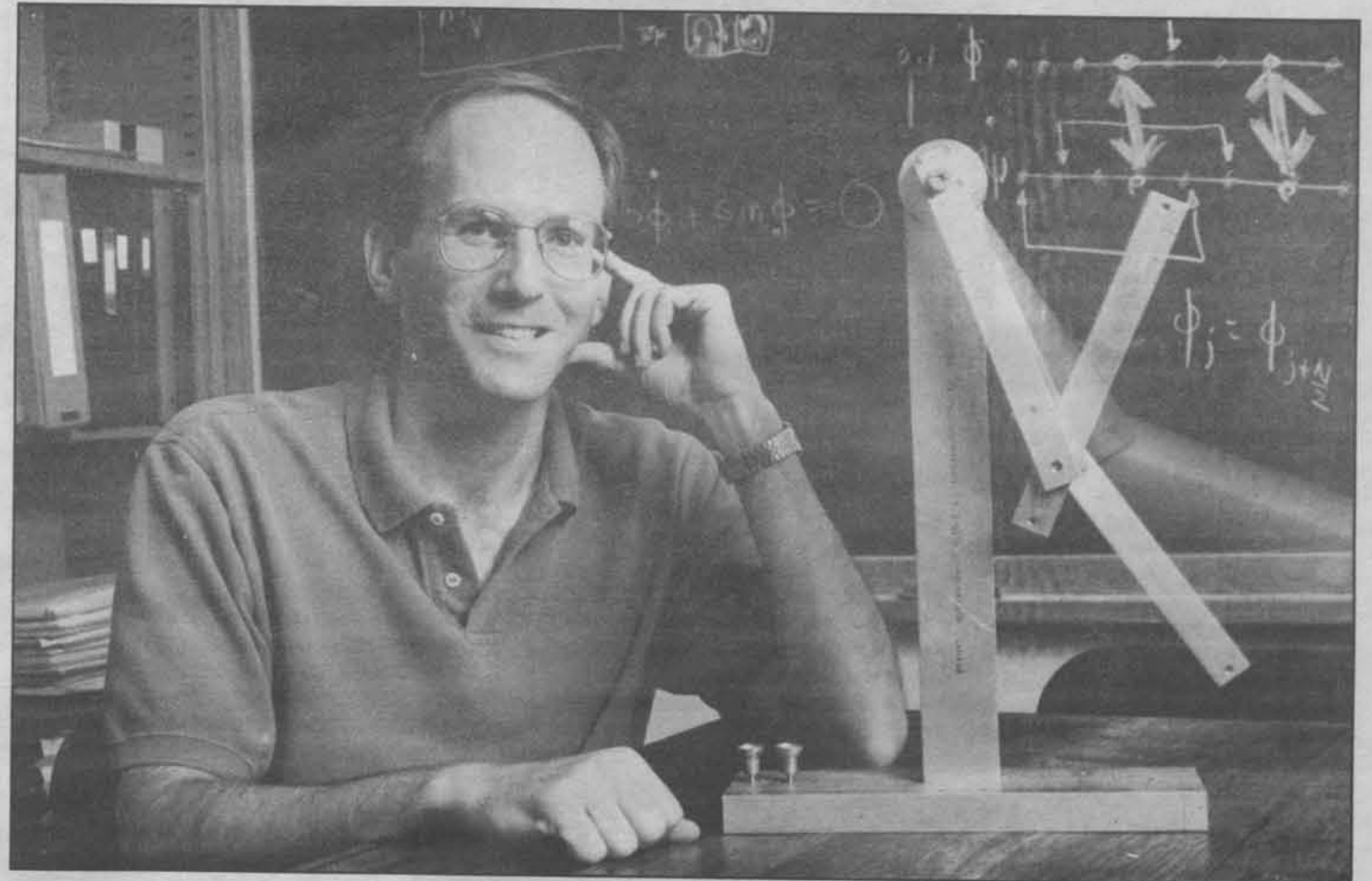
The popular notion that chaos can be used to predict complex systems has not been realized.

"It's been a dream of chaos theory for many years to predict the stock market, politics and the weather, but that's premature," Strogatz said. "It can't be done, at least, not yet. We know in our hearts that the weather is chaotic, but it's not proven. Stock performance, too. But we don't understand those systems well enough; they are far more complex."

Instead, Strogatz has a new grant to help determine how to use chaos in engineering. Author of the widely used college textbook *Nonlinear Dynamics and Chaos* (Addison Wesley, 1994) and instructor of the popular course T&AM 578, "Nonlinear Dynamics and Chaos" (otherwise known as the Cornell Chaos Course), Strogatz is investigating the use of chaos in lasers for private communications.

Strogatz and Henry Abarbanel, director of the Institute for Nonlinear Science at the University of California-San Diego, and Rajarshi Roy, professor of physics at Georgia Institute of Technology, have a \$1.07 million grant from the National Science Foundation to study lasers that have been deliberately driven into chaos and to use that chaos in a new system for private communications.

Just as spies of old would stand by a waterfall or fountain so that their conversations could be masked, so could communications by other means be masked by interference. In the case of lasers, the key is to have the chaos in the transmitting laser and



Steven Strogatz sits in his office with swinging pendula, illustrating one of his research interests – mutual synchronization. Charles Harrington/University Photography

the receiver laser synchronized so that the chaotic mask, or interference, can be subtracted out. What's left is the message. Such a technique could have applications for cellular communications, as well.

Strogatz and his colleagues were first to demonstrate, in 1993, that "synchronized chaos" could be used for private communications. Using electronic circuits, Strogatz, then at MIT, with Alan Oppenheim and his graduate student Kevin Cuomo, built a circuit of "synchronized chaos," and showed how to use it for private communications.

It worked the same way: To send a secret message, one first masks it with much louder chaos, which sounds like static, and then transmits the combined chaos and message. If the receiver can synchronize perfectly to just the chaotic part, then the chaos can be subtracted off at the receiver, thereby revealing the message.

Strogatz's collaborators showed experimentally that such a system actually can be made to work, and together they published a paper in 1993 demonstrating the principle

with an analytical explanation for it.

Another area that interests Strogatz is mutual synchronization in populations of rhythmic individuals, or oscillators. As an analogy, think of an audience at a concert or ball game, where everyone starts clapping in unison, even though no one person is the leader.

First noted by Christiaan Huygens in 1665 when he realized two clocks hanging side by side had pendula that swung in rhythm, each somehow affecting the other, this synchronization occurs in many systems. Biology is full of examples: Crickets synchronize their chirping. Fireflies in Southeast Asia synchronize their flashes (the males light up in a group to attract mates). Pacemaker cells in the heart synchronize when to fire. Neural cells in the brain synchronize voltage fluctuations. Women roommates sometimes find that their menstrual cycles become synchronized after living together for months.

Strogatz has the job of formulating equations that serve as mathematical models for

such different oscillations in nature that lead to synchronization. Another NSF grant he has received with biologist Tim Forrest, formerly of Cornell and now at the University of North Carolina-Asheville, is to study the choruses of snowy tree crickets, which are plentiful in Ithaca.

By playing tapes of chirping, Strogatz said, "I'm going to try to mathematically characterize their response. One cricket is hearing and adjusting to another. Does that explain what happens in a group? If we can make models of this, if we can predict group behavior, we will understand how a population of biological oscillations synchronize themselves."

The crickets are a prototype for what happens in other parts of nature. If successful, these studies will be the first to show how synchronizing occurs with oscillators in a biological example.

As for chaos, Strogatz is one member of Cornell's College of Engineering who welcomes it. "Uses of chaos are on the frontier," he said.

CU's Silcox is named microscopist of the year

By Larry Bernard

John Silcox, the David E. Burr Professor of Engineering and director of the Materials Science Center at Cornell, has won the 1996 Distinguished Scientist Award in the Physical Sciences from the Microscopy Society of America.

Silcox, professor of applied and engineering physics, won the award for "internationally recognized research accomplishments and distinguished contributions to microscopy." Given annually since 1975, it is the highest honor bestowed by the world's leading professional association of electron and optical microscopists. He received the award Aug. 12 in Minneapolis.

"I have enjoyed working with many fine students and I am delighted with the recognition this brings to that work," Silcox said.

A Fellow of the American Physical Society, Silcox came to Cornell in 1961 after holding a research fellowship at Cambridge University for electron microscopy studies of magnetic materials. He spent sabbatical leaves in France and Great Britain in 1967-68 as a Guggenheim Fellow, at Bell Laboratories in 1974-75

and at Arizona State University in 1983. Silcox earned an undergraduate degree from Bristol University in 1957 and a doctorate from Cambridge University in 1961, both in physics.

At Cornell since 1961, he has twice served as director of the School of Applied and Engineering Physics. In 1985 he earned the Tau Beta Pi Excellence in Engineering Teaching Award, and he has been director of the Materials Science Center since 1989.

A past president and member of the Electron Microscopy Society of America, Silcox has served on the Solid State Sciences Committee of the National Academy of Sciences/National Research Council. He has been a member and past chair of the National Science Foundation's Materials Advisory Committee and serves on the advisory committee for the Electron Microscopy Center for Materials Science at Argonne National Laboratory.



Silcox

His research interests include electron microscopy, microspectroscopy and microdiffraction of materials by field-emission gun scanning transmission electron microscopy. The aim of his research is to establish quantitative procedures at the atomic or sub-atomic length scale that can be applied to materials science problems.

The Materials Science Center at Cornell fosters innovative, collaborative, interdisciplinary research in broad areas of materials research. It provides facilities and services and offers the opportunity for the exchange of ideas, information and expertise among researchers working in many disciplines, in both university and corporate settings, around the nation and throughout the world. It is funded by the National Science Foundation, with additional support from Cornell and from industrial sources.

Its core research programs involve about 40 Cornell faculty members from eight academic departments. It also supports 25 graduate-student research projects in six areas, and a program of research experience for undergraduates supports some 35 students from colleges around the country.

Governor signs room-tax bill

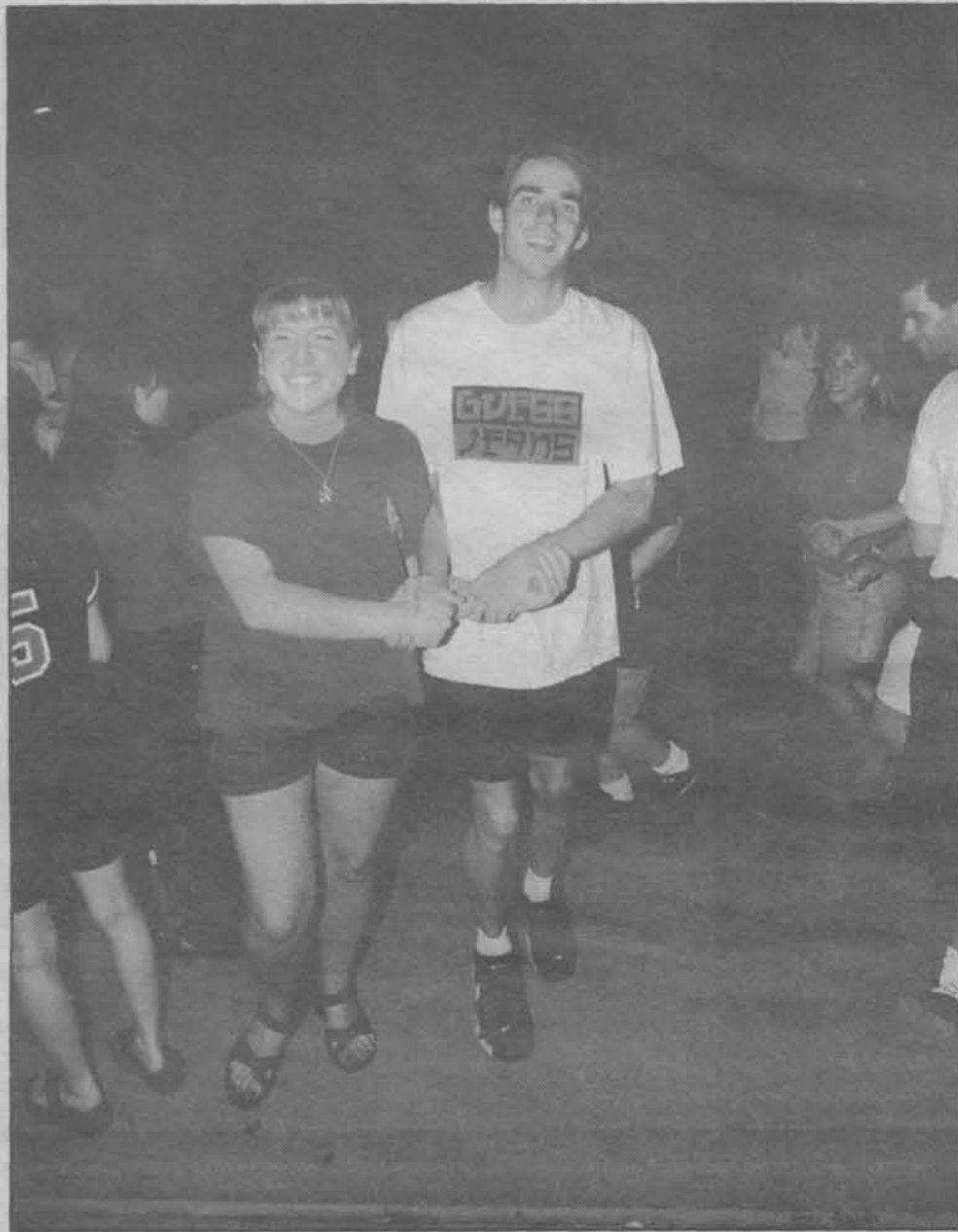
New York Gov. E. George Pataki signed legislation July 31 requiring Cornell's Statler Hotel to collect sales tax on room rentals by persons not representing tax-exempt organizations.

The Statler has been adding the new sales tax to its room charges to non-exempt patrons since Aug. 1. Food and other services at the hotel have always been subject to sales taxes.

Cornell officials opposed as a matter of principle the legislation amending Section 1116 of the Tax Law, initiated at the urging of the Tompkins County Board of Representatives, said Henrik N. Dullea, vice president for university relations.

"The 30-year-old legislation that has been changed was specifically designed to further the educational missions of institutions like the Statler," Dullea said. "The operation of the Statler Hotel has been an essential element of the educational program offered by the School of Hotel Administration since 1952."

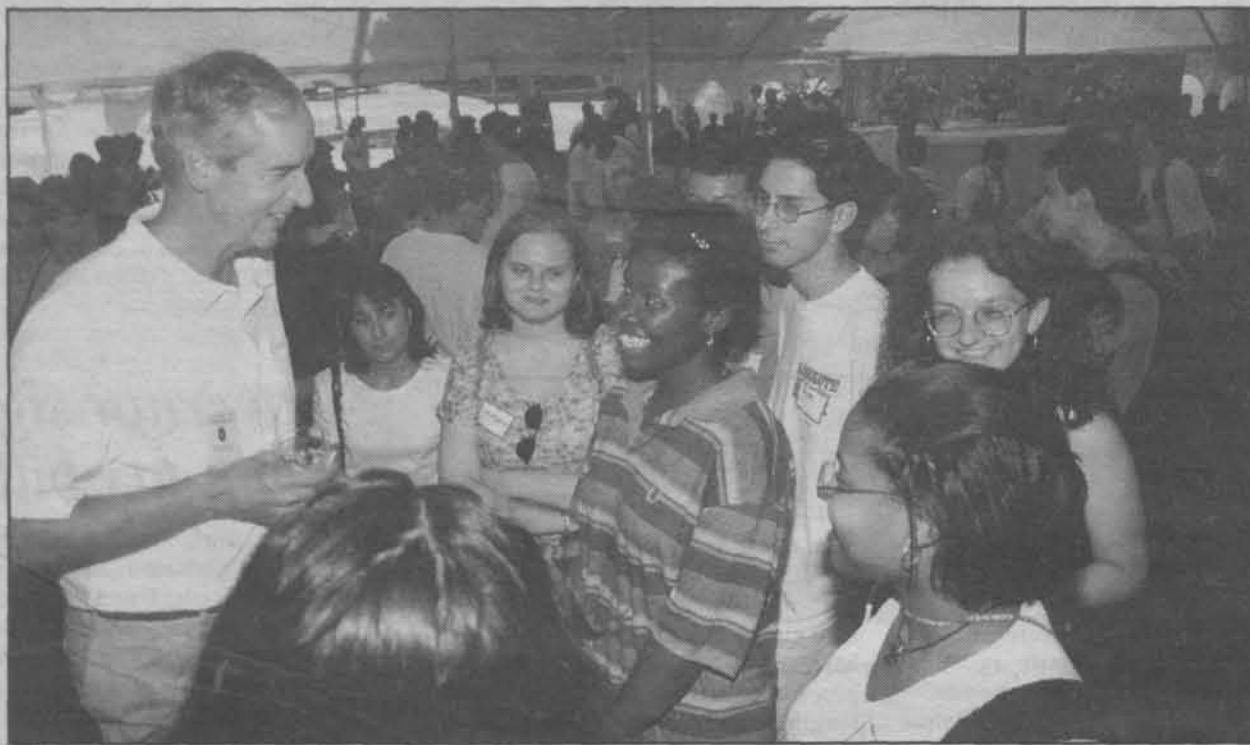
Because the Statler Hotel functions as a teaching facility, its layout, design and upkeep are more costly than those of lodging units in the private sector. Hotel staff, who share in teaching responsibilities, are compensated at a higher level than employees in private hotels, Dullea said.



New students converged on West Campus, linked arms and do-si-doed the night away during the "Wild, Wild West Square Dance" on Saturday night.



Following his talk at the new student convocation, from left, Pat and Jervis Finney.



On Sunday, President Rawlings met informally with new students at an afternoon reception under a tent on the Arts Quad. Here, he speaks with incoming student Yetunde Bku Nwe.

Welcome Cornell

Photographs by
Robert Barker
University Photographer

President's Convocation *continued from page 1*

"You spend a lifetime trying to get them off the ground," Rawlings said. "You run with them until you're both breathless. They crash; they hit the rooftop. You patch and comfort, adjust and teach. You watch them lifted by the wind and assure them that someday they'll fly.

"Finally they are airborne. They need more string, and you keep letting it out. But with each twist of the ball of twine, there is a sadness that goes with joy. The kite becomes more distant, and you know it won't

be long before that beautiful creature will snap the lifeline that binds you two together and will soar, as it is meant to soar, free and alone. Only then do you know that you did your job."

Rawlings urged the newly independent students to get involved in both the Ithaca and Cornell communities, even in helping to address contentious issues facing the university.

"Last spring, the board of trustees approved the general outlines of a new residen-

tial housing policy whose aim is to assure that freshmen have the widest possible exposure to the full range of intellectual, cultural and social opportunities available at Cornell," Rawlings said. "Our aim this year is to involve the entire campus in planning and implementing changes in our residential housing policy that will link the academic and nonacademic lives of students into a cohesive whole.

"I invite you to be a part of those discussions. Even as new students, you can have a

major impact on one of the most important questions facing Cornell."

Rawlings compared the Cornell experience to the Centennial Olympic Games, from which he and his wife, Elizabeth Trapnell Rawlings, had returned a few weeks earlier.

"Even the tragic bomb explosion that occurred on our last day in Atlanta could not lessen what those athletes achieved or diminish the games as a symbol of international understanding and peace," he said.

"And in many respects, those games are a



President Rawlings leans over to greet incoming freshman Jack Finney, who attended the event with parents,

Ken Blanchard offers students tips for success

By Darryl Geddes

"Don't quack like a duck; soar like an eagle."

That's the advice visiting faculty member and author Ken Blanchard offered to incoming Cornell students and their parents on how to achieve success. Blanchard has helped more than 9 million people better manage their time, and lives, through his best-selling "The One-Minute Manager" series.

Ducks, he said, are always complaining—quacking—about something not being right. He suggested that students should instead soar above the fray like eagles. "Duck mentality travels with you for the rest



Blanchard

of your life; don't be a duck," he told the crowd of more than 400 attending faculty convocation Aug. 24 in Bailey Hall.

Borrowing advice from his colleague and friend Norman Vincent Peale, Blanchard urged his audience to "program your mind with positive thoughts."

And, he said, students need to match their physiology with their focus. He compared his own performance as a Cornell student with that of a student who comes to an exam after having stayed awake all night studying.

"The student who pulled the all-nighter is bleary-eyed. His hair's uncombed. He's unshaven. He smells, his clothes are a mess and he sits in the back row," Blanchard said. "I, on the other hand, woke up early, showered and shaved, wore a jacket and tie and sat in the front row. Now," he asked his audience, "who do you think was going to do better on the exam? Who was in a better frame of mind?"

Blanchard argued that the oft-heard student complaint that there is not enough time to do anything is an excuse for poor planning.

And to prove that time is plentiful at college, he offered a daily time-management list. He allowed students:

- eight hours of sleep;
- three hours to eat;
- five hours of class; and
- two hours for any activity other than studying, such as watching TV or working out.

"Given all that, you still have six hours left," he said. "What are you doing with that time?"

He advised students to develop a routine, to plan their day as a way to ensure that each hour would be spent wisely.

"You need a system, so you are on top of things you are supposed to do," Blanchard said.

The student who doesn't plan is late for class, carries the wrong notebook and forgets to bring the day's assignment, he said.

But he warned students not to be focused solely on the task of achieving.

"You must connect with family and friends," he said. "Anyone who only wants to achieve will lead an empty life."

Blanchard, a visiting professor at the School of Hotel Administration, said the most important advice he could offer students was to go to every class.



From left, new international students Metin Cakanyildirim, Takako Yuki and Dogan Ornek attend a reception in Kennedy Hall on Monday night.

metaphor for what you can expect at Cornell. Just like Atlanta, Ithaca is for many of you a long way from home. Your classmates and faculty members come from every state in the nation and from more than 100 other countries. And they may have ideas and ways of looking at the world that are very different from your own.

"You'll also face a higher level of competition here... [but] I know you can set new records for intellectual engagement and personal fulfillment during your time at Cornell."

After Rawlings' talk, as they finished off 190 gallons of lemonade served by Cornell Catering, several new students and their parents said they had already begun experiencing the bittersweet emotions and daunting obstacles Rawlings had just described.

Colleen Marocco '00 was invigorated by a recent four-day backpacking trip as part of Wilderness Reflections, a freshman orientation program run by Cornell's Outdoor Education Program. "It got me off to a good start for college," she said, "because now I know I can

take on hard challenges and be successful."

Marocco is one of the first three Cornell students to be advisees of Rawlings, a professor of classics who offered to mentor some incoming students expressing interest in his field. "He seems down-to-earth and excited about Cornell," she said, "and I'm excited about having him as my adviser."

Colleen's father, Ray Marocco '72, said, "I'm feeling these tremendously opposing feelings for Colleen—the happiness and excitement in her coming to Cornell, but also

the sadness in saying goodbye."

While most attendees prepared for tearful goodbyes, some anticipated joyful family reunions. Andres Lopez, an incoming doctoral student of civil engineering from Chile, said he looked forward to being joined by his wife and 2-month-old child in a few weeks.

Until then, "I'm trying to participate in all of these orientation activities," he said, "because I want to introduce myself to the university. And because I'm trying to practice my English."

Psychologist argues for new theory of how sexual orientation develops

By Roger Segelken

One universal principle—opposites attract—accounts for homosexuality as well as heterosexuality, according to a Cornell psychologist who proposes a sweeping new theory of how sexual orientation develops.

Lifelong sexual orientations can be traced to childhood preferences for sex-typical or sex-atypical activities and peers, suggests Daryl J. Bem, professor of psychology. "Gender-conforming" children, who prefer sex-typical activities and peers, come to feel different from opposite-sex peers, perceiving them as dissimilar, unfamiliar and exotic. And "gender-nonconforming" children, who prefer sex-atypical activities and peers, come to feel different from same-sex peers. As children reach puberty, the feelings of being different get transformed into sexual or romantic attraction: The "exotic becomes erotic," or EBE.

Bem first outlined the EBE theory—complete with a six-step sequence that starts with "biological variables" such as genes and prenatal hormones—in the peer-reviewed journal, *Psychological Review* (1996, Vol. 103, No. 2), and now he is working on a book-length exposition.

The social psychologist believes that biological variables may play an indirect role but do not directly determine sexual orientation. Rather, biology can be partially responsible for what he calls childhood temperaments, and youngsters' temperaments predispose them to enjoy some activities more than others during the critical, life course-setting period.

Many pre-adolescent boys and some girls, Bem observes, enjoy what our society considers "male-typical" activities—rough-and-tumble play and competitive sports—and they tend to associate with peers who share their preferences. Likewise, many girls and some boys are predisposed by temperament toward "female-typical" activities, such as socializing quietly or playing hopscotch, and they seek like-minded peers.

The gender-nonconforming kids who prefer sex-atypical activities and opposite-sex playmates don't have an easy time of it, as every parent knows: Nonconforming boys who play with girls are taunted as "sissies" by typical boys, who consider girls "yucky." And typical girls, who feel intimidated



Daryl J. Bem, professor of psychology
Adriana Rovers/University Photography

by boys, may shun the "tomboys" for their nonconformity.

Eventually, children develop an attraction for those they find exotic: Sex-typical children will become attracted to the opposite sex; sex-atypical children will become attracted to the same sex. This occurs, Bem maintains, because every child—whether conforming or nonconforming—experiences "heightened physiological arousal in the presence of peers from whom he or she feels different. In later years this arousal is transformed to erotic and/or romantic attraction."

Obviously, not every "sissy" boy becomes a gay man. Nor does every "tomboy" grow to be a lesbian woman, Bem acknowledges. But many do. He points to a series of studies, including a meta-analysis of 48 studies totaling thousands of participants. That 1995 analysis (by J.M. Bailey and K.J. Zucker) shows that gay men and lesbians are significantly more likely to recall gender-nonconforming behaviors and

'You are likely to feel an attraction for those who were different, exotic, opposite—whether or not they were of the opposite sex.'

—Daryl Bem

interests in childhood than are heterosexual men and women. In one study that followed males from childhood through late adolescence to adulthood, about 75 percent of the previously gender-nonconforming boys became homosexual or bisexual.

"The key is: Did you feel more like your own sex or the opposite sex during that formative period," Bem said. "You are likely to feel an attraction for those who were different, exotic, opposite—whether or not they were of the opposite sex." The EBE theory treats homosexuality and heterosexuality as the same phenomenon, Bem noted.

Asked if he believes there is a "gay gene," Bem answers, "I doubt that very much. My theory challenges the biological theory that sexual orientation is embedded in the genes—not by refuting biology but by reinterpreting it. I believe that sexual orientation per se is not coded in genetics, in brain neuroanatomy or in prenatal hormones. Rather, biology influences childhood temperaments and the preferences that lead us to feel different from either opposite-sex or same-sex peers and to perceive them as exotic. Then the exotic becomes erotic."

Aware that his theory is likely to raise controversial issues, Bem has written an unpublished "Political Postscript" to address some questions. Among them: Could the theory be misused to implement an anti-gay strategy for preventing gender-nonconforming children from becoming homosexual adults? It will not, he believes.

Moreover, Bem challenges the view that people will be more tolerant of homosexuality if they believe that it is determined by biology. Indeed, the gay community should be happy with EBE theory, he said, "because it views heterosexuality as no more biologically natural than homosexuality."

While you were away for the summer, Bear Access was updated

By Sharon Marcus

In July, while many computer users were away from campus, Cornell Information Technologies (CIT) released updated and improved versions of the Bear Access software packages for Windows 95, Windows 3.1x and the Macintosh. Bear Access is a computer software package Cornell faculty, staff and students use to connect to a variety of both local and worldwide network services. Along with a new logo look (see illustration), highlights of the Bear Access release included:

- distribution of Bear Access software on CD-ROM for faster and easier first-time installations;
- a new "virus scanning" button on all versions of Bear Access that provides software for detecting and eradicating computer viruses;
- a new program for installing Windows 95 Bear Access;
- a new program for installing EZ-Remote (software that allows users to connect to the Cornell computing network by modem) for Macintosh Bear Access;
- a new "e-mail directory" button for contacting someone in Cornell's central electronic directory or in one of the many available at other universities;
- a new help system that can be used whether or not you are connected to the network;
- a new "Career Services" button for access to the Cornell Career Center's online services; and



• a new "CENET" button connecting to Cornell Cooperative Extension's online services.

Due to collaborative efforts by computing service staff across campus, members of the Cornell community also will find the new versions of Bear Access more flexible and easier to install.

"As we prepared for the release, we encouraged more computing support staff across campus to become involved," explained Graham Hall, Bear Access project manager.

In order to facilitate communication between Bear Access software developers and people who provide computing support across campus, Jose Orench, systems integrator for Windows Bear Access, formed a Windows Bear Access Technical Group last November.

"The focus of this group," Orench said, "was to see what we could do together to improve each release of

Windows Bear Access."

For example, Jeffrey Bishop, a computer support provider, was frustrated with the way the Windows Bear Access installer (the program used to install Windows Bear Access software on your computer) required removing the software package and reinstalling it before any new components could be added—such as EZ-Remote network connection software. During a technical group meeting, he suggested the installer be improved to allow software components to be added to a previously installed copy of Bear Access at any time.

In response, Bear Access developers modified the installer. "Now users have the flexibility to run the installer program multiple times and to add new components whenever they want to," explained Bishop, "which makes Bear Access easier to support." Bishop is a computer support provider in the Technology Services group of the School of Industrial and Labor Relations and the Johnson Graduate School of Management.

In addition to installer improvements, the technical group has enhanced this release of Bear Access by adding new services. Having dealt with several computer viruses in his departments, Mel Radcliffe was the technical group participant who suggested delivering virus protection software through Bear Access. "When you support over 500 users," he says "it's difficult to make sure everyone is running the latest virus protection software." Radcliffe

is a computer support provider for the College of Human Ecology and the Division of Nutritional Sciences.

Another group of people who contributed to the quality of this fall's release were those who tested the pre-release versions of Bear Access. More than 100 users, including members of the faculty, alumni, students and staff, tested Bear Access this summer, which is twice the number who tested it last year. Keith Kubarek, systems integrator for Macintosh Bear Access, redesigned the tester registration system to allow people to register on-line via the Web. In addition to tracking the types of computers on which Bear Access was being tested, the database allowed software developers to identify and communicate with specific tester groups.

Orench pointed out that although collaboration is crucial to the success of a software product like Bear Access, it comes with a price: the more people you involve, the more time the project will take. However, says Orench, "taking the time to do good planning and build consensus really pays off. With the help of support providers and testers across campus, we've been able to accomplish things that were previously not possible."

For detailed descriptions of changes to the Bear Access software for the fall 1996 release, visit the Bear Access project Web server at <<http://bearaccess.cit.cornell.edu>>.

Applied and Engineering Physics *continued from page 1*

"Research in our school is designed to advance technology and its applications to the world," said Robert A. Buhrman, professor of applied and engineering physics and director of the school.

"Rigorous training prepares students for a variety of technical achievements in industry and academia. This is more than building the storehouse of knowledge, which by

itself is important; it's looking into the science that has applications in technology and in the economic marketplace," he said.

Applied and engineering physics is an interdisciplinary field. Faculty associated with the school may have expertise in physics, mathematics, electrical engineering, materials science, chemical engineering, chemistry and biology, among

other areas. The school's faculty members were instrumental in starting several of Cornell's current research centers, including the Cornell High Energy Synchrotron Source, the Materials Science Center and the Cornell Nanofabrication Facility.

To register for the symposium or for additional information, call Lorraine Hollister at 255-0639.

Economist leads effort to relieve poverty in sub-Saharan Africa

By Susan Lang

Sub-Saharan Africa is the only region in the world where poverty keeps getting worse, a Cornell economist says. His new mission: to head up a major, collaborative research effort with a strong focus on policy that will have a major impact on improving the lives of millions of poor Africans.

"Poverty is pervasive and worsening in sub-Saharan Africa," said Erik Thorbecke, the H.E. Babcock Professor of Economics and Food Economics. "In fact, in all the developing regions of the world, the severity of poverty and malnutrition is greatest in that subcontinent and is also growing at the fastest rate on Earth."

Thorbecke has been fighting poverty worldwide for more than 30 years, consulting or working with economists in Peru, Guatemala, Colombia, the Philippines, Greece, China, Indonesia, Taiwan, Sri Lanka, Nepal, Kenya, Zaire, Ghana and Tunisia, among others.

An expert on poverty and malnutrition alleviation in developing countries, Thorbecke was commissioned last year by the African Economic Research Consortium (AERC) to assess the impact and effectiveness of its research quality, competence and relevance to policy. The consortium is a network of 120 economic researchers devoted to strengthening the capacity to conduct independent, rigorous inquiry into problems related to economic development and policy in 22 countries in sub-Saharan Africa.

In response, Thorbecke published his evaluation as a monograph, *The AERC Research Program: An Evaluation* (AERC Special Paper 21). In that 81-page booklet, Thorbecke described the AERC research program as "an extraordinarily successful operation" but recommended that the consortium seek to better understand the various dimensions of poverty that is so endemic to the region.

"My major recommendation was that they undertake a new research theme consisting of poverty, employment, labor markets, human capital and the fiscal role of government with reference to human resources," said Thorbecke, former chair of the Department of Economics at Cornell and now director of the Program of Comparative Economic Development and professor in the Division of Nutritional Sciences and the Department of Economics.

When that recommendation was accepted by the consortium, which is supported by an \$8 million budget from the

'Our goal is not only to encourage research in poverty alleviation but to suggest specific policies that will reduce poverty for millions of Africans living in the context of economic growth.'

— Erik Thorbecke

Ford and Rockefeller foundations, USAID, The World Bank, the British Ministry of Overseas Development, among other private foundations, bilateral aid agencies and international organizations, the AERC decided to move forward with the collaborative research, asking Thorbecke to coordinate a four-year project with African scholar Ali Abdel Gader Ali.

The total budget of this project is \$3.8 million, including grants from the Ford Foundation and USAID to fund training and research activities at Cornell. Key participants at Cornell include a team of economists within the Cornell Food and Nutrition Policy Program directed by David Sahn, professor of nutritional sciences, and Gary Fields, professor of industrial and labor relations.

Thorbecke and his collaborator will be gathering information on the magnitude of poverty in 15 African countries that would shed light on appropriate policy. The project will draw heavily on the rich data source of household surveys that have been conducted under the auspices of the World Bank and will develop economic models to better understand the data.

Thorbecke credits his endowed chair, which he has held for almost 20 years, for enabling him to participate in numerous initiatives over the years to better understand the development experience of different countries in Latin America, Asia and Africa.

"The endowment has allowed me to co-sponsor about half a dozen major conferences on issues related to poverty and economic development," said Thorbecke, whose most recent conference this past May, for example, focused on the relevance of the Taiwanese economic performance in recent years to development theory and policy.

Fluent in five languages — English,



Adriana Rovers/University Photography

Erik Thorbecke, the H.E. Babcock Professor of Economics and Food Economics, poses in his Savage Hall office. He has been asked to coordinate, along with African scholar Ali Abdel Gader Ali, a four-year project addressing poverty in 15 African nations.

French, Dutch, Spanish and German — Thorbecke is the author or co-author of about 20 books and monographs and more than 100 technical papers and currently sits on the editorial boards of three economic journals in his field. He played a major consulting role in the 1960s, when the poverty rate in Indonesia was reduced from 60 percent of the population to 15 percent 10 years later.

Thorbecke, who teaches courses in economic development and growth and national and international food economics, helped the Indonesian government work out a social accounting matrix that was institutionalized there. On a more personal note, Thorbecke's great-great-grandfather on his mother's side was Fernando Wood, who was mayor of New

York in the 1860s and built Central Park.

To examine poverty, income distribution and labor markets in sub-Saharan Africa, Thorbecke plans to examine how current stabilization and structural adjustment policies and economic growth in developing Africa can be improved and complemented by needed reforms.

"It is clear that we have to generate much more systematic microeconomic information to develop more accurate estimates of the magnitude of poverty and the characteristics of poor households," said Thorbecke, who credits Cornell with being one of the strongest economic development centers in the world. "We need to develop poverty profiles at the regional and socioeconomic level to help identify

Continued on page 10

Books present the latest theories in two areas of psychopathology

By Susan Lang

Top scholars in psychological science present state-of-the-art thinking on personality disorders and developmental psychopathology in two new books edited by Cornell clinical psychologist and psychopathology researcher Mark F. Lenzenweger.

In *Major Theories of Personality Disorder* (Guilford Press, 1996), Lenzenweger and John F. Clarkin edited a 402-page volume that includes in-depth views on the fundamental nature and organization of personality pathology from various theoretical perspectives. Lenzenweger is an associate professor of psychology in psychiatry at the Cornell Medical College in New York City and of human development and family studies in the College of Human Ecology. Clarkin is a professor of clinical psychology in psychiatry at the Cornell Medical College.

Personality disorders are severe and debilitating forms of mental illness, and they are relatively common in the population. Lenzenweger and Clarkin have assembled *Major Theories of Personality Disorder*, which presents the leading theoretical models of personality disorder and



Lenzenweger

is the first volume of its kind.

The book opens with a chapter by the two editors on historical, research and classification issues. Five succeeding chapters discuss theories of personality disorder from the cognitive-behavioral, psychoanalytic, interpersonal, evolutionary/ecological and neurobiological perspectives. They were contributed by well-known psychologists and psychiatrists, including Aaron Beck, Otto Kernberg, Theodore Millon, Lorna Benjamin and Richard Depue.

In *Frontiers of Developmental Psychopathology* (Oxford University Press, 1996), Lenzenweger was assisted by Jeffrey J. Haugaard, assistant professor of human development and family studies and also a clinical psychologist at Cornell, in editing a collection of position papers from senior researchers in the field to discuss the future direction of this emerging subdiscipline of psychological science.

"Developmental psychopathology has reached a turning point," Lenzenweger said. "It barely existed in 1974 and since then has largely been explored from psychosocial perspectives."

He maintains that genetic influences, neurobiological systems and brain development must be explored further to better understand those mental illnesses that pose major public health concerns, such as autism, schizophrenia, anxiety disorders, depression, antisocial personality, eating disorders and others.

Stemming from a conference at Cornell in 1993, the book presents views on various severe and complex psychopathologies within a developmental framework with an eye toward the future.

Comprised of seven chapters, the book covers the extent to which developmental psychopathology is heritable and how this heritability plays itself out in a developmental course; the role of neurobiology and environmental interactions in determining developmental psychopathology; a developmental model for early onset delinquency; markers and developmental processes for schizophrenia; developmental psychopathology in adolescence; and behavior research in childhood autism. The 241-page book concludes with a chapter on the concepts and prospects of developmental psychopathology written by Sir Michael Rutter, the world's leading scientist in developmental psychopathology.

Lenzenweger, also director of the Laboratory of Experimental Psychopathology at Cornell, focuses his research on models of severe psychopathology, personality disorders and personality, and the experimental psychopathology of schizophrenia and schizotypic states. He teaches abnormal psychology and advanced experimental psychopathology. Haugaard teaches courses in family studies.

Both books are intended for scientists and students, as well as clinicians interested in a scientific understanding of psychopathology. They are fully referenced and indexed.

Mary Fessenden is named new director of Cornell Cinema

Mary Fessenden, who has served as managing director of Cornell Cinema since 1987, has been named the organization's new director. The appointment, which was effective July 1, was made by Professor David Bathrick, chair of the Department of Theatre, Film and Dance, formerly the Department of Theatre Arts. Fessenden succeeds Steve Tremble.



Fessenden

"We are extremely pleased to have Mary Fessenden as director of Cornell Cinema," Bathrick said. "She has been an invaluable part of the growth of the Cinema over the recent years and will surely provide strong leadership in the challenging years to come."

Prior to joining Cornell, Fessenden was marketing and publicity director and general manager of Central Casting Theatre Company in Ithaca.

Fessenden holds a master's degree in arts administration from SUNY Binghamton and has held internships with Sydney Opera House in Australia, among other arts organizations.

In addition to her responsibilities as managing director at Cornell Cinema, Fessenden also programmed the IthaKid Film Festival, something she will continue to do as director.

Cornell Cinema offers an array of programming for the campus and Ithaca community, presenting more than 700 screenings year-round. Along with its regular showings, Cornell Cinema sponsors or co-sponsors film festivals with various university departments and programs.

Among the changes Fessenden will oversee is rescheduling of Sunday matinees from 4:30 to 2:30 p.m., a change suggested by Cinema patrons, she said. In addition, a 5:15 p.m. Thursday matinee will be added.

With regard to programming, Fessenden said she plans to open up the process to guest curators from both inside and outside Cornell.

"I'd like to take advantage of the film expertise that exists outside the organization by offering guest curatorships to film scholars, critics, filmmakers and others," she said.

They're making waves



Charles Harrington/University Photography

Isabel Ramos '96, right, helps Charlene Santos portray ocean waves during the Latino Civic Association and Esperanza Mentorship Program's Summer '96 Theater Workshop performance of "Manuelita," Aug. 17 at the Greater Ithaca Activities Center gym. Ramos was a mentor for the theater program for local Latino children, designed under the direction of Cornell Professor Debra Castillo. It was the theater workshop's final summer performance.

Poverty in sub-Saharan Africa *continued from page 9*

appropriate policies for the future."

Thorbecke also said that the researchers will need to study labor markets, such as the specific labor and supply and demand conditions prevailing in different markets and the role of the government in areas

related to poverty alleviation, such as education, health, nutrition and public investment in infrastructure.

Cornell will collaborate with the World Bank and a number of other institutions, including the International Labour Of-

fice. Cornell will prepare a number of background papers on various issues related to different aspects of poverty in the region; run four training workshops on poverty, policy and labor market analysis; and provide research training for Af-

rican economists.

"Our goal is not only to encourage research in poverty alleviation but to suggest specific policies that will reduce poverty for millions of Africans living in the context of economic growth," Thorbecke concluded.

CALENDAR *from page 12*

miscellany

Alcoholics Anonymous

Meetings are open to the public and will be held Monday through Friday at 12:15 p.m. and Saturday evenings at 5 p.m. in Anabel Taylor Hall. For more information, call 273-1541.

Crafts Fair

The Student Activities Office is still soliciting applications for the Holiday Arts and Crafts Fair, to be held Dec. 5-6. For an application, call Roxanne Edsall at the Student Activities Office at 255-4169.

Emotions Anonymous

This 12-step group that helps people deal with emotional problems meets for a discussion meeting on Sundays at 7:30 p.m. and a step meeting on Tuesdays at 8 p.m. at the St. Luke Lutheran Church, 109 Oak Ave., Collegetown. For more information call 387-0587.

Mann Library Workshops

The following workshops are free and restricted to the Cornell community. Classes are held in the Stone 1 (PC) and Stone 2 (Macintosh) Microcomputer Centers, first floor, Mann Library. Workshops are limited to 19 participants. Register electronically at <http://www.mannlib.cornell.edu/workshops/> or call the reference desk

at 255-5406.

- Half-hour tour of Mann Library: Meet at noon in the first-floor lobby on Aug. 29 and 30. No registration required.

- The Mann Library Gateway, a collection of hundreds of databases and helpful services: Sept. 3, 10:10 to 11 a.m., Stone 1 (PC); Sept. 4, 11:15 a.m. to 12:05 p.m., Stone 2 (Mac).

Olin-Kroch-Uris Library Tours

For information about any of the following programs, stop at the reference desk in Olin or Uris libraries or call 255-4144.

- Tours of Olin, Kroch and Uris libraries will begin from Olin Library lobby Sept. 9 through Sept. 13 at 4 p.m.

- Map collection tour starts in the Map Collection, lower level of Olin Library: Sept. 6 at 2:30 p.m.

- Library research orientation sessions will take place in the Uris Library Electronic Classroom Aug. 29 and Sept. 3 from 4 to 6 p.m. This seminar will provide an introduction to using the library for new faculty, graduate students and transfer students.

- Session on the American Academic Library, designed for international students who have little or no experience using academic libraries in the United States, will be held Aug. 30 from 3 to 4 p.m.

T'ai Chi Ch'uan

T'ai Chi Ch'uan, Chinese martial art, for health and self-defense, taught by Kati Hanna '64. Starts week of Sept. 16 and ends week of Dec. 2. Mondays and Thursdays, 5 p.m., Edwards Room, Anabel Taylor Hall.

Also offered are noontime meditative Tai Chi Gung exercises, Tuesdays and Thursdays, 11:30 a.m., Edwards Room, Anabel Taylor Hall.

Fees are charged. First week is free. Wear soft, flat shoes and loose, comfortable clothing. Open to all. Register at the first class. Call Kati Hanna at 272-3972 for information.

Alumni step out in the Cornell Dance Festival, Aug. 30 to Sept. 1

By Darryl Geddes

A three-day retrospective of dance—choreographed and performed by former students of Cornell's Dance Program—steps out Friday, Aug. 30, at Cornell's Center for Theatre Arts.

Billed as the Cornell Dance Alumni Festival, the weekend features workshops, classes, a panel presentation and the chance to hobnob with prominent alumni. Registration for the weekend, which includes attendance to all functions, including a brunch and reception, is \$25. To register, contact festival coordinator Joyce Morgenroth at 254-2744.

On Friday, a reception for registrants will be held from 7 to 9 p.m. in the CTA lobby. Classes, workshops and jam sessions will be held throughout the day, Saturday and Sunday.

The highlight of the festival is the Dance Alumni Gala Concert set for Saturday, Aug. 31, at 8 p.m. Tickets are \$10; \$8 for students and senior citizens and are available at the CTA box office.

Cornell alumni featured in the gala performance are Charles Odell Anderson '94, Chris Black '92 and Lydia Bueschel '93, founders and co-directors of the San Francisco-based POTRZEBIE Dance Project;

Melinda Buckwalter '84 and Bruce Jones '85, founders of Kinetic Engineers; Christine Doempke '96, nominated as Student Choreographer of the Year by *Dance* magazine; Danielle Greer '93; Kristin Eliasberg '79; Stefanie Nelson '91; and Connie Schrader '75.

Earlier in the day, at 4 p.m., an informal free dance concert will be held in the Class of '56 Dance Theatre of the CTA. Because seating is limited, tickets are required for admission to this performance.

A behind-the-scenes examination of the art form is the topic of a panel discussion Sunday, Sept. 1, at noon with remarks by Jennifer Tipton '58, a Tony award-winning lighting designer who has staged works by Mikhail Baryshnikov and Jerome Robbins, and Marcia Pally '71, a film critic and professor at New York University. The discussion will be held in the CTA Film Forum.

"The dance festival is part of our retrospective of 20th century dance; but it is also a look ahead, a glimpse at the upcoming generation of dancers," said Morgenroth. "All of the performers got their start here at Cornell, went on to dance and choreograph professionally and are now returning to Ithaca to showcase their work."

Hyundai Motor Co. sends 'superstar' execs to the Johnson School

By Darryl Geddes

In an attempt to become one of the world's dominant automakers by the year 2000, the Hyundai Motor Co. in Korea is arming its future executives with the business acumen, skills and knowledge found only at an American university.

Hyundai has dispatched more than two dozen of its "superstar" executives to the Johnson Graduate School of Management at Cornell for an eight-month stay to learn business management skills and gain a global perspective on manufacturing. The participants, who range in age from 37 to 50, are being groomed as the next generation of senior- and top-level managers.

The Johnson School's Hyundai program is the longest non-degree executive education program ever developed at Cornell and one of the longest ever developed by an American school.

However, the program is noteworthy not only for its length, but also for its stringent requirements: except for a brief vacation in July, participants have been forbidden to return to Korea or have their family members visit them here. Grade reports are being sent home to corporate headquarters.

Such requirements are designed to ensure that the motor company's future leaders are performing to their fullest potential, with no excuse for failure.

"We see this program as an investment in Hyundai's future," said Carl Lee, the company's director of human resources. "We want our future executives to have the skills needed to take advantage of the global opportunities that exist in areas such as marketing, finance and manufacturing and to fully understand the American government's relationship to the business world."

In addition, Lee said, the program addresses Hyundai's belief that the company needs to reinforce and educate management personnel to be more competitive in the global marketplace.

Hyundai selected Cornell, Lee said, because it offered a prestigious name, a special emphasis on manufacturing and a strong reputation—especially in Asia—in the area of business management education. Two other Korean companies, the Korean Power Co. and Po Huang Steel, have had contracts with Cornell for executive education programs and services.

Another vote in the university's favor was its location: the rolling hills of New York's Finger Lakes region, far away from the distractions of a big city such as New York. "We wanted them to be in a place where they can just study," Lee said.

One Hyundai executive studying at Cornell said the restrictions—including the prohibition on family visits—are uncomfortable but necessary.

"There are a lot of benefits of being alone abroad," said Yang-su Kim, an assistant general manager. "We are freed from the everyday job and family worries. Our



Martha Hodges, English-language instructor for the Johnson Graduate School of Management's Hyundai Executive Education Program, conducts a class in Malott Hall for Hyundai officials studying at Cornell.

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— Carl Lee, Hyundai's director of human resources

mission is to study, and Ithaca is the best place for it. We can rethink ourselves and be more objective by being outsiders."

The Hyundai program marks a dramatic departure from the usual executive education programs offered by Cornell. Existing programs run from two days to four weeks, but no program in the history of executive education ever has lasted eight months.

"They wanted a very intensive and comprehensive program in which their executives could be fully immersed in a culture they seek to better understand," said William J. Anderson, Cornell manager for the Hyundai program.

The 25 executives were given a 12-week intensive English-language instruction program after arriving at Cornell in February. The curriculum included a two-week (May 27-June 8) module on the "American Experience," which provided executives with an overview of American

history, politics, government, culture and values. Participants also took a field trip to Washington, D.C., with tours of the White House, the Capitol and the Supreme Court.

The Hyundai executives are now spending 16 weeks (June 10-Sept. 27) learning about manufacturing, leadership and organizational development, corporate strategy and economics, as well as finance, marketing and accounting. As part of their training, they will visit several U.S. auto manufacturers, including Chrysler operations in Detroit.

For the remainder of the program (Sept. 30-Oct. 25), executives will receive additional English-language instruction and participate in advanced business seminars on selected topics.

The executives are being taught by faculty from the Johnson School, as well as from Cornell's School of Industrial and Labor Relations, College of Engineering

and College of Arts and Sciences.

The first task for the executives upon their return to Korea will be to sell their new ideas and skills in the workplace.

"It is usual to expect some sort of confrontation or argument when new ideas are introduced, but our company's harmonious and cooperative environment can help resolve this," said Young-jin Lee, a director at Hyundai who is part of the Cornell program. He suggested that continuous education programs at Hyundai's facilities in Korea will help ensure these new ideas are accepted and implemented.

But it may not be long before the skills and ideas taught at Cornell are part of every Hyundai executive's portfolio: Hyundai already is committed to sending a second group of executives to campus next year for a similar educational experience.

Hyundai Motor Co., with production facilities in 10 countries, including Pakistan, Thailand, Malaysia and Egypt, plans to sell 1.2 million cars at home and about the same number abroad in the year 2000, for annual sales of \$25 billion, more than double 1994 sales figures. To reach these goals, the company has made substantial investments in its production and research and development facilities. By 2000, the company plans to manufacture 500,000 cars annually overseas and 1.9 million cars domestically. Hyundai's U.S. headquarters is located in Fountain Valley, Calif.

Workshop to examine changes in militarization following the Cold War

By Jill Goetz

On Sept. 6 and 7, anthropologists, historians, sociologists and even an exiled Peruvian general will join forces on the Cornell campus to consider the question: How is the military being redefined in different corners of the globe as the 20th century draws to a close?

"Demilitarization, Remilitarization after the Cold War in Germany, Japan, Peru and the U.S.A." is a workshop being organized by Cornell anthropologists John Borneman, Billie Jean Isbell, Robert J. Smith and Theodore Bestor and sponsored by their department as well as Cornell's East Asia Program, Latin American Studies Program, Institute for European Studies, Peace Studies Program and the Rose Golden Fund on Images of Society. The workshop is free and open to the public.

"By attending this workshop, people will hear some of the most original minds today address how militarization is being redefined as practices of defense, arming and security,"



Borneman

Workshop organizers chose the four countries, Borneman said, because "they provide the most radical contrasts of ways in which the domain of the military is being redefined."

The workshop begins Friday morning in Room G-08 of Uris Hall, with a focus on the U.S. military. Speaking will be Jeffrey Longhofer of the University of Missouri and Lauren Berlant of the University of Chicago, followed by a

discussion by Cornell's Mary Katzenstein, associate professor of government. Friday afternoon, Michael Geyer of the University of Chicago, Konrad Jarausch of the University of North Carolina and Peter Katzenstein, Cornell government professor, will discuss the meaning of prewar militarization and post-war demilitarization in Germany. Saturday the sessions move to 215 McGraw Hall, where a morning session will focus on Peru, with Orin Starn of Duke University, Tom Holloway, Cornell professor of history, and Gen. Alberto Arciniega, the former director of the Peruvian Military Forces Human Rights Commission and former commander in Peru's coca-growing region. An afternoon session on Japan will feature the University of Pennsylvania's Akiko Hashimoto, the University of Hawaii's Patricia Steinhoff and Victor Koschmann, Cornell professor of Japanese history. For more information about the militarization workshop, contact John Borneman at 255-6790.

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For more information about the militarization workshop, contact John Borneman at 255-6790.

CALENDAR

August 29 through September 5

All items for the Chronicle Calendar should be submitted (typewritten, double spaced) by campus mail, U.S. mail or in person to Chronicle Calendar, Cornell News Service, Village Green, 840 Hanshaw Road.

Notices should be sent to arrive 10 days prior to publication and should include the name and telephone number of a person who can be called if there are questions.

Notices should also include the subheading of the calendar in which the item should appear.

dance

Department of Theatre, Film & Dance

The Cornell Alumni Dance Festival, a three-day retrospective of dance that is choreographed, performed and discussed by former students of Cornell's Dance Program, will take place Aug. 30 through Sept. 1 at the Center for Theatre Arts. See the story on Page 10 for more information.

An informal concert of dance alumni will be held Aug. 31 at 4 p.m. in the Class of '56 Dance Theatre. The concert is free to the public, but tickets are required from the box office, as seating is limited.

The Dance Alumni Gala Concert, which will take place Aug. 31 at 8 p.m. in the Proscenium Theatre, will feature works and performances by 10 former Cornell students. Tickets are \$8 and \$10. Call the box office at 254-ARTS for more information.

exhibits

Johnson Museum of Art

The Herbert F. Johnson Museum of Art, on the corner of University and Central avenues, is open Tuesday through Sunday from 10 a.m. to 5 p.m. Admission is free. Telephone: 255-6464.

- "Three Cornell Artists: John Ahearn, Louise Lawler and Susan Rothenberg," through Oct. 13.
- "New Furniture: Beyond Form and Function," through Oct. 13.
- "Op Art," through Oct. 13.
- "The Prints of Frank Stella," through Oct. 13.
- "Photo-Realism," through Oct. 13.
- "Pop Art," through Dec. 9.

Workshops:

- "Memories in Hand," a clay workshop for senior citizens. Sept. 12 and 19, 3 to 4:30 p.m., \$30 for members/\$35, non-members. Register by Sept. 5.
- "Chinese Brush Painting," an eight-week course taught in the traditional Chinese style. Fridays, Sept. 13 to Nov. 1, 3 to 4:30 p.m., \$83 for members and students/\$88 for non-members, plus \$45 materials fee. Register by Sept. 6.

films

Films listed are sponsored by Cornell Cinema unless otherwise noted and are open to the public.

All films are \$4.50 (\$4 for students, kids 12 and under and seniors), except for Tuesday night Cinema Off-Center at the Center for Theatre Arts (\$2), Thursday early bird matinees (5:15) and Sunday matinees (\$3). Films are held in Willard Straight Theatre except where noted.

Thursday, 8/29

"Rashomon" (1950), directed by Akira Kurosawa, 7 p.m.

"Dr. Strangelove" (1963), directed by Stanley Kubrick, with Peter Sellers and George C. Scott, 9 p.m.

Friday, 8/30

"Citizen Kane" (1941), directed by Orson Welles, with Welles and Joseph Cotten, 7 p.m.

"Rumble in the Bronx" (1995), directed by Jackie Chan, with Chan and Anita Mui, 7 p.m., Uris.

"Pulp Fiction" (1994), directed by Quentin Tarantino, with John Travolta, Uma Thurman and Samuel L. Jackson, 9:15 p.m., Uris.

"Shanghai Triad" (1995), directed by Zhang Yimou, with Gong Li and Li Boatian, 9:30 p.m.

"Twister" (1996), directed by Jan De Bont, with Helen Hunt and Bill Paxton, midnight, Uris.

Saturday, 8/31

"Shanghai Triad," 7 p.m.

"Twister," 7 p.m., Uris.

"Citizen Kane," 9:30 p.m.

"Rumble in the Bronx," 9:45 p.m., Uris.

"Pulp Fiction," midnight, Uris.

Sunday, 9/1

"Shanghai Triad," 7 p.m.

"Rumble in the Bronx," 9:30 p.m.

Monday, 9/2

"Grand Illusion" (1937), directed by Jean Renoir, with Jean Gabin and Erich Von Stroheim, 7:15 p.m.

"Twister," 9:45 p.m.

Tuesday, 9/3

"Richard III" (1996), directed by Richard Loncraine, with Ian McKellen and Annette Bening, 7:15 p.m.

Margaret Mead Film Festival: Media Collectives, 7:30 p.m., Center for Theatre Arts Film Forum.

"Twister," 9:30 p.m.

Wednesday, 9/4

"Dead Man Walking" (1995), directed by Tim Robbins, with Sean Penn and Susan Sarandon, 7:15 p.m.

"Twister," 9:45 p.m.

Thursday, 9/5

"Richard III," 5:15 p.m.

"The Truth About Cats and Dogs" (1996), directed by Michael Lehmann, with Uma Thurman and Janeane Garofolo, 7:30 p.m.

* "Taxi Driver" (1976), directed by Martin Scorsese, with Robert DeNiro and Jodie Foster, 9:45 p.m.

graduate bulletin

• **Late registration:** Bring student ID card to the University Registrar's Office, 222 Day Hall, and go to the Graduate School, Caldwell Hall, for course enrollment. A late registration fee of \$200 plus interest payments will be assessed to those registering after Sept. 20.

• **Course enrollment:** Course enrollment forms will be available in graduate field offices and at the Graduate School, 150 Caldwell Hall. Course enrollment continues through Friday, Sept. 20; return completed form in person to the Graduate School. Students who completed electronic precourse enrollment last spring do not need to complete a course enrollment form; if there is a change in their schedules, they should complete a course drop and add form.

• **Graduate faculty meeting:** Friday, Sept. 6, 4 p.m., General Committee Room, 125 Caldwell Hall. This meeting is solely for the purpose of voting on August degrees.

• **Formatting theses and dissertations:** Templates for creating the thesis/dissertation are available for Microsoft Word 6. Text can be typed directly into the template. A self-taught course on "Writing a Dissertation with Microsoft Word 5 or 6" also is available. Contact Technology Training Services, e-mail <cit_training@cornell.edu> or phone 255-8000.

• **Graduate teaching development workshop:** An all-day graduate teaching development workshop will be held on Saturday, Sept. 14, in Kennedy Hall. Workshop registration forms are available at registration, field offices, Big Red Barn Grad Center and the Office of Instructional Support, 4th floor, CCC building (255-3493). Space is limited. There is no charge for attendance.

• **Fulbright Grants for study abroad:** Applications are available at the Einaudi Center for International Studies. Applicants should meet with the Fulbright adviser, Milton Esman, as soon as possible. For appointment, contact the Einaudi Center, 170 Uris Hall, 255-6370.



From Zhang Yimou, director of "Raise the Red Lantern" and "Red Sorghum," "Shanghai Triad" looks at a week in the life of a gangland mistress in 1930s Shanghai. The film will screen Aug. 30 and 31 and Sept. 1 in Willard Straight Theatre.

music

Brand X Musical Theatre

Brand X Musical Theatre, a student-run group dedicated to performing musicals on campus, will hold auditions for its fall production of "Nunsense" Sept. 1 and 2 from 6 to 10 p.m. in Noyes Center, West Campus. For more information, contact Kristin at kam8@cornell.edu or Samantha at 272-2678.

Cornell Savoyards

Auditions for Cornell Savoyards' fall production of Gilbert & Sullivan's comic opera "Yeomen of the Guard" will be held from 7 to 10 p.m., Sept. 3 at the Community School of Music and Arts, and Sept. 4 at 403 Barton Hall. Accompanist provided. For information, call 257-0496 or 277-6881.

religion

Sage Chapel

The Rev. Robert L. Johnson, director of Cornell United Religious Work, will give the sermon Sept. 1 at 11 a.m.

African-American

Sundays, 5:30 p.m., Robert Purcell Union.

Baha'i Faith

Fridays, 7 p.m., firesides with speakers, open discussion and refreshments. Meet at the Balch Archway; held in Unit 4 lounge at Balch Hall. Sunday morning prayers and breakfast, 7 a.m.

Catholic

Weekend Masses: Sunday, 10 a.m., noon and 5 p.m., Anabel Taylor Auditorium. Daily Masses: Monday-Friday, 12:20 p.m., Anabel Taylor Chapel. Sacrament of Reconciliation: Call the Catholic Office at 255-4228 for an appointment.

Christian Science

Sundays, 10:30 a.m., First Church of Christ Scientist, University Avenue at Cascadilla Park. Testimony meetings sharing healing through prayer and discussion every Thursday at 7 p.m., Founders Room, Anabel Taylor Hall. For more information see <http://www.msc.cornell.edu/~bretz/cso.html>.

Episcopal (Anglican)

Sundays, worship and Eucharist, 9:30 a.m., Anabel Taylor Chapel.

Friends (Quakers)

Meeting for worship, Sundays, 10:30 a.m., Hector Meeting House, Perry City Road. Childcare provided. For information, call 272-8755.

Jewish

Saturday Services: Orthodox: 9 a.m., Edwards Room, Anabel Taylor Hall.

Korean Church

Sundays, 1 p.m., chapel, Anabel Taylor Hall.

Lutheran

Sundays, 9:30 a.m., and Thursdays, 7 p.m., St. Luke Lutheran Church, Oak Ave. at College Ave.

Muslim

Friday Juma' prayer, 1:15 p.m., One World Room, Anabel Taylor Hall. Daily Zuhr, Asr, Maghreb and Isha' prayers at 218 Anabel Taylor Hall.

seminars

American Indian Program

"Indian Economic Futures: Governance and State Taxation," Aug. 30 and 31 in David L. Call Alumni Auditorium, Kennedy Hall. The keynote address Aug. 30 at 7:30 p.m. will be given by Artley Skenandore, a Wisconsin Oneida, who will speak on traditional principles and business management. The seminar costs \$25 for preregistrants and \$30 at the door; students can apply for a limited number of registration waivers. For more information, call 255-6587.

Animal Science

"GENEX: Past, Present and Future," Bruce Bean, general manager, GENEX, Sept. 3, 12:20 p.m., 348 Morrison Hall.

Ecology & Systematics

"Environmental Variation, Dormancy and the Maintenance of Diversity," Carla Caceres, ecology and evolutionary biology, Sept. 4, 4 p.m., A106 Corson Hall.

Microbiology

"Role of Genetic Diversity of Listeria Monocytogenes in Animal and Human Disease," Martin Wiedman, food science, Aug. 30, 12:15 p.m., Boyce Thompson Auditorium.

Peace Studies Program

"On the Duty of Citizens: Lévee-en-Mass in Germany, 1918-1945," Michael Geyer, University of Chicago, Sept. 5, 12:15 p.m., G-08 Uris Hall.

Plant Biology

"Investigating Molecular and Physiological Aspects of Ion Absorption and Metabolism in Roots of Dicotyledonous Plants," Tama Fox, postdoctoral fellow, Aug. 30, 11:15 a.m., 404 Plant Science Building.

Plant Breeding

"Germplasm Exchange in a Changing World," Henry Shands, USDA/ARS, Aug. 29, 2 p.m., 135 Emerson Hall.

Plant Pathology

"A Plant Pathologist in a Liberal Arts College: A Year in the Life of an Undergraduate Instructor," Michael Sulzinski, University of Scranton, Sept. 4, 12:20 p.m., 404 Plant Science Building.

Statistics

"Multimedia for Teaching Introductory Statistics," Paul Velleman, ILR School, Sept. 4, 3:30 p.m., B-11 Kimball Hall.

Theoretical & Applied Mechanics

"Strengthening of Polymer Interfaces," Herbert Hui, theoretical and applied mechanics, Sept. 4, 4:30 p.m., 140 Bard Hall.

theater

Department of Theatre, Film & Dance

Students are invited to audition for the upcoming fall productions, "All in the Timing: Six One-Act Comedies" by David Ives and "Angels in America Part Two: Perestroika," Sept. 4-5, 6:30 to 8:30 p.m., Flexible Theatre, Center for Theatre Arts.

Continued on page 10